

CASE STUDY

Drainage System Helps Convert Empty Field into a New Park

Fairfax County, VA

OWNER

Fairfax County Parks, Fairfax County, VA

ENGINEER

Pennoni Associates, Chantilly, VA

CONTRACTOR

Deborn Construction, Inc., Woodbridge, VA

INSTALLATION DATE

August 2024

PRODUCTS

140' (43 m) of 12" (300 mm) HP Storm
80' (24 m) of 15" (375 mm) HP Storm
220' (67 m) of 18" (450 mm) HP Storm
4 15" (375 mm) Nyloplast® Basins
2 18" (450 mm) Nyloplast Basins
3 24" (600 mm) Nyloplast Basins
1 30" (900 mm) Nyloplast Basins
392' (120 m) of 15" (375 mm) Duraslot® XL

DESCRIPTION

Fairfax County officials decided to transform an empty field into a new park. The park, which is sandwiched between an elementary school and neighborhood, has a soccer field and basketball court. The soccer field takes up roughly half of the park space, which was graded to the center line for rainwater run off.

The run off was captured by 12 various size Nyloplast drains that were installed throughout the park. In addition, 392' (120 m) of 15" (375 mm) Duraslot XL pipe was able to capture the rainwater with a 5" (125 mm) standard slot opening, which was a variable height. Duraslot XL pipe is able to convey the stormwater as it is manufactured from ADS dual-wall high-density polyethylene (HDPE) corrugated pipe.



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The stormwater was also conveyed by 440' (134 m) of HP Storm pipe, which ranged in diameter from 12"-18" (300-450 mm). The four runs of HP Storm ran to a trickle ditch on the park's site and then into the county storm sewer system.

The products were specified on the design by Pennoni Associates as ADS products could provide the full stormwater package that was needed for the park's drainage. The contractor had installed Nyloplast on smaller projects, but had not utilized Duraslot previously. ADS representatives worked with the contractor on general questions about the Duraslot installation, such as connecting the pipe to the Nyloplast basins.

Nyloplast drain basins are custom built for each project. Nyloplast products are more durable and corrosion resistant than precast basins and combine a rugged PVC structure with ductile iron grates. The basins can be easily adjusted in the field to meet the final grade. The structures are shipped with rubber gaskets to ensure a watertight connection.

HP Storm polypropylene pipe provides superior pipe stiffness, longer bells and spigots and a premium joint performance for a longer service life. The smooth interior wall offers additional strength and high flow capacity. HP Storm pipe, available in diameters from 12"-60" (300-1500 mm) meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212. Polypropylene is resistant to the effects of chemicals, abrasion, hot soils and effluent.

Duraslot XL trench drains provide superior hydraulic efficiency and flow capacity, while being engineered to handle heavy structural loads. The pipe is available in 6"-36" (150-900 mm) with 5" (125 mm) wide grates in either standard or pedestrian styles. Standard and variable slot height can be manufactured specifically for your project's needs. Duraslot is a cost-effective substitute for precast trench drains or cast-in-place trench drains with steel or cast iron grates.



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